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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/636,139	08/06/2003	Chin-Lung Wang		2386

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WEI TE CHUNG  
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EXAMINER

JOYCE, WILLIAM C

ART UNIT PAPER NUMBER

3682

DATE MAILED: 03/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/636,139	<b>Applicant(s)</b> WANG ET AL.	
	<b>Examiner</b> William C. Joyce	<b>Art Unit</b> 3682	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

### **DETAILED ACTION**

This is the First Office Action in response to the above identified patent application filed on August 6, 2003.

#### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation "each of said cutouts radially extending through said main body with a range around 180 degrees" is not fully understood. Specifically, it is not clear as to whether applicant is defining each cutout being positioned about 180 degrees from each other or is defining each cutout being within a 180 degree range. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfister (US Patent 3,592,518) in view of at least one of Chan et al. (US Patent 6,842,388), Nada et al. (US Patent 6,073,537), or VanWyk (US Patent 3,938,868).

Referring to Figures 4-5, Pfister illustrates a bearing comprising: a cylindrical main body (18) defining an axial hole (19) and a first cutout therein, the axial hole spanning along an axis of the cylindrical main body for receiving a shaft therein, the first cutout spanning from an outer surface of the cylindrical main body to the axial hole; and a first mating member (20), which has a same configuration as the first cutout and is inserted into the first cutout; wherein the first mating member comprises an inner curved surface having a same radius of curvature as that of the axial hole and an outer curved surface having a same radius of curvature as that of the outer surface of the cylindrical main body.

Pfister does not disclose one of the main body and the first mating member comprising ceramic material and the other of the main body and the first mating member comprising metal alloy. Pfister discloses the bearing members being made of a synthetic resin material, or some other material such as metal... (column 3, lines 9-17). It was known in the art to configure a bearing having two members, wherein one member is formed of ceramic and the other member is formed of a metal alloy. For example, the prior art to at least one of Chang et al., Nada et al., or VanWyk, teaches the use of both a ceramic material and a metal alloy material in forming a two piece bearing member. It would have been obvious to one of ordinary skill in the art at the

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time the invention was made to form the bearing of Pfister with both a ceramic material and a metal alloy, as taught by at least one of Chang et al., Noda et al., or VanWyk, motivation being to provide a rigid bearing having a long operating life.

Alternatively, it would have been obvious to one of ordinary skill in the bearing art at the time the invention was made to form the bearing of Pfister with ceramic and metal alloy materials, such as silicon oxide and a iron-copper based alloy, since it has been held to be within the general skill of a worker in the art to select a known material of the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

With respect to claims 6, 7, and 13, Pfister does not teach the bearing having two cutouts, each for supporting a respective bearing member. Note, Pfister only show a single cutout. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the bearing of Pfister with multiple cutouts, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. V. Bemis Co., 193 USPQ 8.

Alternatively, VanWyk teaches a plurality of cutouts for supporting a plurality of mating members. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the bearing of Pfister with a plurality of cutouts, as taught by VanWyk, motivation being to provide a rigid bearing having a long operating life.

With respect to claims 8-11, the positioning of the cutouts with respect to the hole is consider a design choice depending, for example, on the radial load of the shaft

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and on the manufacturing operation used in forming the bearing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to an engineer in the bearing art to vary the position of the cutouts depending on the radial load of the bearing and to facilitate in making the bearing body.

With respect to claim 14, the limitations fail to clearly define the positioning of the bearing cutouts (see rejection under 35 USC 112, 2<sup>nd</sup>) and do not distinguish over the prior art. As noted above, providing more than one cutout is not considered inventive because it does not provide an unexpected result over the prior art teachings.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Note the bearing arrangements of Bigelow et al. ('810), Hudgens et al. ('644), Linley, Jr. ('337), Momose et al. ('314), Okude ('546), and Chen et al. ('677).

-Note the ceramic bearing having a metal portion taught by Seibig ('660).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Joyce whose telephone number is (571) 272-7107. The examiner can normally be reached on Monday - Thursday 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 3/16/06  
William C. Joyce